

Remarks

The Office Action dated November 18, 2005 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-15 are pending in this application. Claims 1-15 stand rejected.

In accordance with 37 C.F.R. 1.136(a), a two month extension of time is submitted herewith to extend the due date of the response to the Office Action dated November 18, 2005, for the above-identified patent application from February 18, 2006, through and including April 18, 2006. In accordance with 37 C.F.R. 1.17(a), authorization to charge a deposit account in the amount of \$450.00 to cover this extension of time request also is submitted herewith.

The objection to Claims 4, 5, 9, 10, 14, and 15 for informalities is respectfully traversed.

Claims 4, 5, 9, 10, 14, and 15 have been amended as suggested by the Examiner to recite a "predetermined amount of conservatism". Accordingly, Applicant respectfully requests that the objection to Claims 4, 5, 9, 10, 14, and 15 be withdrawn.

The rejection of Claims 1-15 under 35 U.S.C. § 101 is respectfully traversed.

Independent Claim 1 has been amended to recite in part a method including "determining if a nuclear power generating system meets licensing requirements by: analyzing an event by a deterministic safety analysis methodology when the event has an event initiating frequency at or above the threshold value; or analyzing an event by a probabilistic risk assessment methodology when the event has an event initiating frequency below the threshold value". Applicant respectfully submits that the method recited in Claim 1 is directed to statutory subject matter. Particularly, the method recited in Claim 1 includes the step of determining if a nuclear power generating system meets licensing requirements by analyzing an event by a deterministic safety analysis methodology when the event has an event initiating frequency at or above the threshold

value; or analyzing an event by a probabilistic risk assessment methodology when the event has an event initiating frequency below the threshold value. Applicant submits that the method is useful which produces a tangible and concrete result. Independent Claims 6, and 11 have been amended similarly. Accordingly, Applicant submits that Claims 1-15 are directed to statutory subject matter and meet the requirements of 35 U.S.C. § 101.

For the reasons set forth above, Applicants respectfully request that the Section 101 rejection of Claims 1-15 be withdrawn.

The rejection of Claims 1-15 under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement is respectfully traversed.

Applicant respectfully submits that the subject matter of Claims 1-15 are described in the specification in such clear, concise, and exact terms as to enable one skilled in the art to make and use the invention. Independent Claim 1 has been amended to recite in part a method including "determining if a nuclear power generating system meets licensing requirements by: analyzing an event by a deterministic safety analysis methodology when the event has an event initiating frequency at or above the threshold value; or analyzing an event by a probabilistic risk assessment methodology when the event has an event initiating frequency below the threshold value". Applicant submits that because nuclear reactor licensing requirements are stringent and highly detailed by the Nuclear Regulatory Commission, one skilled in the art knows which events that need to be examined and analyzed to show compliance with governmental licensing requirements.

For the reasons set forth above, Applicants respectfully request that the Section 112, first paragraph rejection of Claims 112 be withdrawn.

The rejection of Claims 1-15 under 35 U.S.C. § 112, second paragraph, as being indefinite is respectfully traversed.

Applicant respectfully submits that Claims 1-15 are definite and particularly point out and distinctly claim the subject matter which the Applicant regards as his invention. Independent Claim 1 has been amended to recite in part a method including "determining if a nuclear power generating system meets licensing requirements by: analyzing an event by a deterministic safety analysis methodology when the event has an event initiating frequency at or above the threshold value; or analyzing an event by a probabilistic risk assessment methodology when the event has an event initiating frequency below the threshold value". Applicant submits that because nuclear reactor licensing requirements are stringent and highly detailed by the Nuclear Regulatory Commission, one skilled in the art knows which events that need to be examined and analyzed to show compliance with governmental licensing requirements.

For the reasons set forth above, Applicants respectfully request that the Section 112, second paragraph, rejection of Claims 112 be withdrawn.

The rejection of Claims 1-15 under 35 U.S.C. § 102(b) as being anticipated by Framework For Risk-Informed Changes To the Technical Requirements of 10 CFR 50 (Framework) is respectfully traversed.

Framework was developed by the NRC and describes the development of the use of probabilistic risk assessment (PRA) to improve safety decision making and regulatory efficiency. However Framework does not address the subject of integrating PRA into deterministic analyses elements such as methodologies and acceptance criteria. The Framework does not describe nor suggest a systematic approach based on the probability of an event to determine if the event

should be analyzed using the more rigorous deterministic approach or using the probabilistic risk assessment approach.

Claim 1 of the present application recites a method that includes " ordering events by an initiating event frequency; defining an initiating event frequency threshold value; defining acceptance criteria having an adjusted amount of conservatism, wherein the amount of conservatism is a function of the initiating event frequency; determining if an event has an event initiating frequency at or above the threshold value; determining if an event has an event initiating frequency below the threshold value; and determining if a nuclear power generating system meets licensing requirements by: analyzing an event by a deterministic safety analysis methodology when the event has an event initiating frequency at or above the threshold value; or analyzing an event by a probabilistic risk assessment methodology when the event has an event initiating frequency below the threshold value."

Framework does not describe nor suggest a method as recited in Claim 1. Particularly, Framework does not describe nor suggest a method that includes determining if an event has an event initiating frequency at or above the threshold value, determining if an event has an event initiating frequency below the threshold value, and determining if a nuclear power generating system meets licensing requirements by analyzing an event by a deterministic safety analysis methodology when the event has an event initiating frequency at or above the threshold value, or analyzing an event by a probabilistic risk assessment methodology when the event has an event initiating frequency below the threshold value. Rather, Framework describes using PRA on one defined set of events and using the deterministic approach on a second defined set of events. The problem with the approach describe in Framework is that some events are included in the deterministic analysis set even though the probability of the event occurring is highly unlikely,

and some events are in the PRA set even though the likelihood of the event is high enough that a deterministic treatment may be warranted. Applicant submits that the method recited in Claim 1 overcomes the shortcomings of Frameworks arbitrary assignment of assessment methodology by actively determining the event initiating frequency and determining if this event initiating frequency is over a threshold value before determining the assessment methodology that is used to determine if the licensing requirements are met. Applicant submits that the quotations cited from Framework in the Office Action do not describe nor suggest this novel aspect of Claim 1. Accordingly, Applicant submits that Claim 1 is patentable over Framework.

Claims 2-5 depend from independent Claim 1. When the recitations of dependent Claims 2-5 are considered in combination with the recitations of Claim 1, Applicant respectfully submits that Claims 2-5 likewise are patentable over Framework.

Independent Claim 6 recites a "system comprising a computer configured to: order events by an initiating event frequency; define an initiating event frequency threshold value; define acceptance criteria having an adjusted amount of conservatism, wherein the amount of conservatism is a function of the initiating event frequency; determine if an event has an event initiating frequency at or above the threshold value; determine if an event has an event initiating frequency below the threshold value; and determine if a nuclear power generating system meets licensing requirements by: analyzing an event by a deterministic safety analysis methodology when the event has an event initiating frequency at or above the threshold value; or analyzing an event by a probabilistic risk assessment methodology when the event has an event initiating frequency below the threshold value."

Framework does not describe nor suggest a system as recited in Claim 6. Particularly, and at least for the reasons explained above, Framework does not describe nor suggest a system

comprising a computer configured to determine if an event has an event initiating frequency at or above the threshold value, determine if an event has an event initiating frequency below the threshold value, and determine if a nuclear power generating system meets licensing requirements by analyzing an event by a deterministic safety analysis methodology when the event has an event initiating frequency at or above the threshold value or analyzing an event by a probabilistic risk assessment methodology when the event has an event initiating frequency below the threshold value. Accordingly, Applicant submits that Claim 6 is patentable over Framework.

Claims 7-10 depend from independent Claim 6. When the recitations of dependent Claims 7-10 are considered in combination with the recitations of Claim 6, Applicant respectfully submits that Claims 7-10 likewise are patentable over Framework.

Framework does not describe nor suggest a system as recited in Claim 6. Particularly, and at least for the reasons explained above, Framework does not describe nor suggest a computer program embodied on a computer readable medium that includes "a code segment that: orders events by an initiating event frequency; defines an initiating event frequency threshold value; defines acceptance criteria having an adjusted amount of conservatism, wherein the amount of conservatism is a function of the initiating event frequency; determines if an event has an event initiating frequency at or above the threshold value; determines if an event has an event initiating frequency below the threshold value; and determines if a nuclear power generating system meets licensing requirements by: analyzing an event by a deterministic safety analysis methodology when the event has an event initiating frequency at or above the threshold value; or analyzing an event by a probabilistic risk assessment methodology when the event has an event

initiating frequency below the threshold value." Accordingly, Applicant submits that Claim 11 is patentable over Framework.

Claims 12-15 depend from independent Claim 11. When the recitations of dependent Claims 12-15 are considered in combination with the recitations of Claim 11, Applicant respectfully submits that Claims 12-15 likewise are patentable over Framework.

For the reasons set forth above, Applicants respectfully request that the Section 102(b) rejection of Claims 1-15 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Favorable action is respectfully solicited.

Respectfully submitted,



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